

REMARKS

This Response and Amendment is filed in response to the Office Action dated July 2, 2004.

Claims 41-59 are pending in this application. Applicant has amended the “Related Applications” portion of the specification to reflect the updated priority claim.

Claims 41, 47, 52 and 58 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite. Applicant has amended claims 41, 45, and 46, as well as canceled Claim 58, to overcome this rejection. Further, Applicant has amended claims 42, 49, and 55 to correct a typographical error. Accordingly, withdrawal of the rejection under § 112 is respectfully requested.

Obviousness-Type Double Patenting Rejections

Claims 41-59 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-13 of U.S. Patent No. 6,257,883 (the ‘883 Patent), claims 1-22 of U.S. Patent No. 5,913,680 (the ‘680 Patent), claims 1-10 of U.S. Patent No. 5,857,850 (the ‘850 Patent), and claims 1-15 of U.S. Patent No. 5,474,445 (the ‘445 Patent). The present invention includes three independent claims 41, 48, and 54.

In determining whether a nonstatutory basis exists for a double patenting rejection, it must be determined whether any claim in the application defines an invention that is merely an obvious variation of an invention claimed in the reference. See MPEP § 804. [An obviousness-type double patenting rejection is not appropriate where the claimed subject matter of the application is not patentably distinct from the claimed subject matter of a commonly owned patent. *Id.*; *Eli Lilly & Co. v. Barr Labs., Inc.*, 251 F.3d 955, 58 USPQ2d 1865 (Fed. Cir. 2001).] The analysis used in an obviousness-type double patenting rejection

parallels the guidelines for analysis of a 35 U.S.C. § 103 obviousness determination. *In re Braat*, 937 F.2d 589, 19 USPQ2d 1289 (Fed. Cir. 1991).

According to the MPEP, § 804 II.B.1, any obviousness-type double patenting rejection should make two things clear. First, the rejection should make clear the differences between the inventions defined by the conflicting claims, i.e. a claim to claim comparison between the reference patent and the pending application. Second, the rejection should make clear the reasons why a person of ordinary skill in the art would conclude that the invention defined in the claim at issue is an obvious variation of the invention defined in a claim in the patent. It is respectfully submitted that the Examiner has not met this prima facie burden.

The subject matter claimed in the '883 Patent relates to an "over the wing" embodiment of an orthodontic bracket and is shown by the embodiment in FIGS. 1-5 of the '883 Patent. The '883 Patent claims a bracket including a resilient locking shutter having one end pivotally engaged with a tie wing and an opposing end positioned in the archwire slot. The locking shutter is pivotable between an open position, where access to the archwire slot is permitted, and a closed position, where access to the archwire slot is inhibited. Claim 1 of the '883 Patent recites as prior art that in the open position, the locking shutter resiliently engages the tie wing. Claim 7 of the '883 Patent recites as prior art that the locking shutter slides along a labial surface of a tie wing when in a position between the open position and the closed position. The subject matter claimed by the '883 Patent is considered prior art in an obviousness-type double patenting analysis.

In the present application, all of Applicant's claims recite an orthodontic bracket having a locking shutter positioned between the tie wings, instead of "over the wing" as required by the '883 Patent. There is nothing in the claims of the '883 Patent that teaches or

suggests the concept of a locking shutter positioned between the tie wings. For this reason alone, all of the present claims are patentably distinct from the claims of the '883 Patent.

Further, claim 41 of the present application is directed to a self-ligating bracket having a locking shutter positioned between the tie wings, wherein the bracket includes a labial surface having a notch. The invention is shown in at least FIGS. 6-11 of the present application. The invention of claim 41 is not obvious in view of the prior art '883 Patent because claims 1-13 of the '883 Patent does not teach or suggest a locking shutter positioned between the tie wings with a labial surface having a notch.

Claim 48 of the present application is directed to a self-ligating bracket having an end of the locking shutter positioned in the archwire slot when the shutter is closed wherein the end of the locking shutter includes a labial surface that is concave about an axis that is parallel to a mesio-distal axis. This invention is shown in at least FIGS. 6-11 of the present application. The invention of claim 48 is not obvious in view of the prior art '883 Patent because claims 1-13 of the '883 Patent does not teach or suggest a locking shutter positioned between the tie wing with the end of the locking shutter positioned in the archwire slot when the shutter is closed or the end of the locking shutter including a labial surface that is concave about a mesio-distal axis.

Claim 54 of the present application is directed to a self-ligating bracket with an end of the locking shutter positioned in a notch in the archwire slot when the shutter is closed, which is shown in at least FIGS. 6-11 of the present application. The invention of claim 54 is not obvious in view of the prior art '883 Patent because claims 1-13 of the '883 Patent do not teach or suggest a locking shutter positioned between the tie wing with the end of the locking shutter positioned in a notch in the archwire slot when the shutter is closed.

The above-referenced features are not taught or suggested by claims 1-13 of the '883 Patent, and the Examiner has provided no evidence in support of the PTO's position. More specifically, the claimed subject matter of the present invention is not an obvious variant of claims 1-13 of the '883 Patent. Therefore, it is respectfully submitted that claims 41-57 and 59 of the present application are not obvious variants of claims 1-13 of the '883 Patent, and withdrawal of the corresponding rejection is required.

The subject matter claimed by the '680 Patent is considered prior art in an obviousness-type double patenting analysis. The subject matter of the '680 Patent relates to an orthodontic bracket including a pair of laterally spaced gingival tie wings and a pair of laterally spaced occlusal tie wings, with both the gingival and occlusal tie wings at opposed mesial and distal sides of the bracket body being separated by an interwing region of the body; an archwire slot extending mesiodistally across the body between the gingival and occlusal tie wings; and a locking shutter.

Independent claim 1 of the '680 Patent requires a biasing means in the form of a leaf spring secured to the locking shutter intermediate its ends for resiliently urging an archwire in the archwire slot. The leaf spring extends into the archwire slot and extends mesiodistally with respective mesial and distal formations thereon extending in the archwire slot when the shutter is in a closed position. An embodiment of claim 1 of the '680 Patent is shown in FIGS. 42-45 of the '680 Patent.

Independent claims 8 and 20-22 of the '680 Patent require the locking shutter be pivotal about at least one pivot pin. Independent claim 8 requires that the locking shutter include a single loop at one end thereof to surround the pivot pin; independent claim 20 requires a lubricating or sealing agent carried by one or more of the body, locking shutter and archwire; independent claim 21 requires a stop on the body and a wedge on the locking

shutter to abut the stop when the locking shutter is compressed and moved to the closed position to lock the shutter in the closed position; and independent claim 22 requires the locking shutter include a spring loaded piston accommodated by a tie wing and extending into the interwing region to lock the shutter in the closed position.

The subject matter of the claimed invention is not taught or suggested by claims 1-22 of the '680 Patent, nor is the claimed subject matter an obvious variant of claims 1-22 of the '680 Patent. None of the claims of the '680 Patent teach or suggest the claimed subject matter of independent claims 41, 48, and 54 of the present application. In particular, claims 1-22 of the '680 Patent do not teach or suggest a locking shutter positioned between the tie wings with a labial surface formed collectively by the body and the tie wings having a notch, the end of the locking shutter positioned in the archwire slot when the shutter is closed and the end of the locking shutter including a labial surface that is concave about an axis parallel to a mesio-distal axis, or an end of the locking shutter positioned in a notch in the archwire slot when the shutter is closed.

The above-referenced features are not taught or suggested by claims 1-22 of the '680 Patent, and the Examiner has provided no evidence in support of the PTO's position. More specifically, the claimed subject matter of the present invention is not an obvious variant of claims 1-22 of the '680 Patent. Therefore, it is respectfully submitted that claims 41-57 and 59 of the present application are not obvious variants of claims 1-22 of the '680 Patent, and withdrawal of the corresponding rejection is required.

The subject matter claimed by the '850 Patent is considered prior art in an obviousness-type double patenting analysis. The subject matter of the '850 Patent relates to an orthodontic bracket including a pair of laterally spaced gingival tie wings and a pair of laterally spaced occlusal tie wings with the tie wings extending from a labial surface of the

bracket body; an archwire slot extending mesiodistally across the body between the gingival and occlusal tie wings; and a locking shutter. Independent claims 1 and 8 of the '850 Patent require two vertical passageways, or slots, formed through the occlusal tie wings and the locking shutter is slidable in the passageways between an open position and a closed position. Biasing means, or springs, are located in each passageway for urging the locking shutter to the closed position and releasably retaining the shutter in the closed position. An embodiment of the claimed subject matter of claims 1 and 8 is shown in FIGS. 56-58 of the '850 Patent. Independent claim 7 requires a resilient shim including a first end attached to the locking shutter, a second end movable relative to the locking shutter, and a convex lingual surface resiliently urging an archwire in the archwire slot.

The subject matter of the claimed invention is not taught or suggested by claims 1-10 of the '850 Patent. Further, the claimed subject matter of the present invention is not an obvious variant of claims 1-10 of the '850 Patent. None of the claims of the '850 Patent teach or suggest the subject matter of independent claims 41, 48, and 54 of the present application, including a locking shutter positioned between the tie wings with a labial surface formed collectively by the body and the tie wings having a notch, an end of the locking shutter positioned in the archwire slot when the shutter is closed and the end of the locking shutter including a labial surface that is concave about an axis parallel to a mesio-distal axis, or an end of the locking shutter positioned in a notch in the archwire slot when the shutter is closed, as required by the present application.

The subject matter of claims 1-10 of the '850 Patent do not teach or suggest the claimed subject matter of the present invention, and the Examiner has provided no evidence in support of the PTO's position. Therefore, it is respectfully submitted that claims 41-57

and 59 of the present application are not obvious variants of claims 1-10 of the '850 Patent, and withdrawal of the corresponding rejection is required.

The subject matter claimed by the '445 Patent is considered prior art in an obviousness-type double patenting analysis. The subject matter of claims 1-15 of the '445 Patent relates to a self-engaging orthodontic bracket including a pair of gingival and occlusal tie wings extending buccal-labially from the lingual surface of the bracket body, a central mesiodistally extending labially opening slot for receiving an archwire, a mesiodistally extending lingual locking surface intermediate one of the pairs of tie wings, and a mesiodistally extending axis means intermediate the other pair of tie wings. The bracket further comprises a pivotal latch having a catch means at one end for locking engagement with the locking surface and a figure-eight shaped pivot means at an opposite end. The pivot means defines first and second channels for pivotally receiving the axis means such that the latch is pivotal between an open position and a closed position. In the open position the first channel receives the axis means. In the closed position the second channel receives the axis means and the catch means securely engages the locking surface.

The subject matter of the independent claims 41, 48, and 54 of the present invention is not taught or suggested by claims 1-15 of the '445 Patent, nor is the claimed subject matter an obvious variant of claims 1-15 of the '445 Patent. In particular, none of the claims of the '445 Patent teach or suggest a locking shutter positioned between the tie wings that includes a labial surface formed collectively by the body and the tie wings having a notch, an end of the locking shutter positioned in the archwire slot when the shutter is closed and the end of the locking shutter including a labial surface that is concave, about an axis parallel to a mesio-distal axis, or an end of the locking shutter positioned in a notch in the archwire slot when the shutter is closed, as required by the present application.

The subject matter of claims 1-15 of the '445 Patent do not teach or suggest the claimed subject matter of the present invention, and the Examiner has provided no evidence in support of the PTO's position. Therefore, it is respectfully submitted that claims 41-57 and 59 of the present application are not obvious variants of claims 1-15 of the '445 Patent, and withdrawal of the corresponding rejection is required.

35 U.S.C. § 102(b) Rejections

Claims 41-59 are rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 4,634,662 (Rosenberg). Rosenberg discloses an orthodontic bracket with a self-contained seating and locking mechanism. The bracket includes left and right members 1, 1' and a milled portion 7 for receiving an archwire 6. A horizontal, cylindrical, and tapered cavity 10, that extends mesiodistally, is formed in the members 1, 1' to receive a tapered plug 4 to which a lever 5 is rigidly mounted. The lever 5 terminates at the flat springs 8, 8' which can be made to bear on and seat the archwire 6 by clockwise rotation of the plug 4. Force applied to the plug in the mesiodistal direction F_1 holds the plug 4 such that the lever 5 is in an open position to allow placement of the archwire 6 in the slot 7. Force applied to the plug in the opposite mesiodistal direction F_2 rotates plug 4 clockwise until the springs 8, 8' seat the archwire 6 in the slot 7. As seen in FIG. 2, in the closed position, a labial surface of the springs 8, 8' is concave about a gingival-occlusal axis. Force applied in the direction F_2 again breaks the frictional adhesion between the plug 4 and the cavity 10 such that the plug 4 rotates counter-clockwise to the open position.

Claims 41-47 are directed to a self-ligating bracket having a locking shutter positioned between the tie wings, wherein the bracket includes a labial surface having a notch formed therein. Rosenberg does not teach, suggest or disclose a body and tie wings collectively forming a labial surface having a notch formed therein. The tie wings 2 of

Rosenberg form a labial surface. However, no notch is formed in the labial surface of the tie wings 2 as required by claim 41. Therefore, Rosenberg cannot anticipate claims 41-47 of the present application, and allowance of those claims is respectfully requested.

Claims 48-53 are directed to a self-ligating bracket having a locking shutter positioned between the tie wings, wherein the end of the locking shutter is positioned in the archwire slot when the shutter is closed, and further wherein the end of the locking shutter includes a labial surface that is concave about an axis that is parallel to a mesio-distal axis. Applicant has amended claim 48 such that the labial surface is concave about a mesio-distal axis, which is supported by FIGS. 6-11 of the present application. Rosenberg does not teach, suggest or disclose a locking shutter including an end positioned in the archwire slot when the shutter is in the closed position or the end including a labial surface that is concave about mesio-distal axis. Rosenberg discloses the lever 5 with springs 8, 8' attached to the end of the lever 5 seat the archwire 6 in the slot 7. The end of the lever 5 positioned in the slot 7 includes a labial surface that is linear. The springs 8, 8' include a labial surface that is concave about a gingival-occlusal axis, but the labial surface is not concave about a mesio-distal surface as required by claim 48. Therefore, Rosenberg cannot anticipate claims 48-53 of the present application, and allowance of those claims is respectfully requested.

Claims 54-57 and 59 are directed to a self-ligating bracket having a locking shutter positioned between the tie wings, wherein an end of the locking shutter is positioned in a notch in the archwire slot when the shutter is closed. Rosenberg does not teach, suggest or disclose an archwire slot including a notch, or a shutter including an end positioned in the notch when the shutter is in the closed position. The lever 5 of Rosenberg is movable between a first position to allow access to the archwire 6 and a second position to prevent access to the archwire 6 and to hold the archwire 6 in place by applying force to a plug 4 in

the mesial and distal directions. [See FIGS. 1-2 and 5, and Col. 2, lns. 44-65]. In the second position, the springs 8, 8' of the lever 5 bear on and seat the archwire 6 within the slot 7. The slot 7 does not include a notch, nor, in the second position, is the lever 5 positioned within a notch. Rather, the lever 5 is spaced apart from the archwire 6 and an inner perimeter of slot 7. [See FIGS. 2-3]. Therefore, Rosenberg cannot anticipate claims 54-57 and 59 of the present application, and allowance of those claims is respectfully requested.

In view of the remarks and amendments presented herein, Applicant believes that the claims as filed are in condition for allowance and respectfully requests a timely Notice of Allowance be issued for this case. The undersigned is available for telephone conference.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Gayle A. Bush". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

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